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IDENTIFIERS *Michigan Educational Assessment Program

ABSTRACT

This explanatory report was prepared to assist educators in the interpretation of the local district and school summary reports provided by the 1974-75 Michigan Educational Assessment Program. Information concerning the interpretation of student and classroom reports was provided in a separate report. The first section of this report describes the educational assessment measures used in the 1974-75 program. The second section contains aids for interpreting the information contained in the reports and includes facsimilies of the forms used to report assessment results to local school districts. The final section contains cautions that should be exercised in the interpretation of the school and school district reports. Appendix A contains a listing of the mathematics and reading performance objectives for grades four and seven assessed in the 1974-75 program; Appendix B contains the definitions of the educational assessment measures. (Author)

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TM005 184

Third Report

School and District Reports: Explanatory Materials 1974-75

Michigan Department of Education

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SCHOOL AND DISTRICT REPORTS: EXPLANATORY MATERIALS

The Third Report of the 1974-75
Michigan Educational Assessment Program

Prepared by Research, Evaluation, and Assessment Services

Michigan Department of Education

October, 1974

FOREWORD

The Michigan Educational Assessment Program (MEAP) was initiated by the State Board of Education, supported by the Governor, and funded by the Legislature initially through enactment of Act 307 of the Public Acts of 1969, and subsequently under Act 38 of the Public Acts of 1970. This report, the third in the 1974-75 series of MEAP reports, provides information which will assist school district staff in the interpretation of the school and district summaries of the educational assessment results. This report will provide information about the educational assessment program which will be useful to educators and citizens in improving education for all Michigan children and youth.

Thanks are due to a large number of Michigan teachers, school administrators, and lay citizens for their cooperation with and assistance to the Department in developing the assessment program. Educators and other citizens were involved in the development and reviews of the performance objectives which form the basis of the objective-referenced reading and mathematics tests used in the 1974-75 educational assessment program. The tests were developed by Michigan educators and validated during the 1972-73 school year in several Michigan school districts. The program was designed and administered by the Research, Evaluation, and Assessment Services (REAS), Michigan Department of Education, with the assistance of Measurement Research Center, Iowa City, Iowa, and the advice of the REAS Council.

This report was prepared by Dr. Thomas H. Fisher with the assistance of Dr. David L. Donovan, Dr. Ronald L. Fishbein, Mr. Robert J. Huyser, Mrs. June Olsen and Dr. Edward D. Roeber. Questions or requests for additional information relative to this report should be directed to the educational assessment staff.

John W. Porter

Superintendent of Public Instruction

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INTRODUCTION

This explanatory report was prepared to assist educators in the interpretation of the local district and school summary reports provided by the 1974-75 Michigan Educational Assessment Program. Information concerning the interpretation of student and classroom reports was provided in a separate report.[1]

The first section of this report describes the educational assessment measures used in the 1974-75 program. The second section contains aids for interpreting the information contained in the reports and includes facsimiles of the forms used to report assessment results to local school districts. The final section contains cautions that should be exercised in the interpretation of the school and school district reports.

APPENDIX A contains a listing of the mathema ics and reading performance objectives for grades four and seven assessed in the 1974-75 program; APPENDIX B contains the definitions of the educational assessment measures.

[1] **Individual Student and Classroom Reports: Explanatory Materials.** Lansing, Michigan: Michigan Department of Education, October 1974. (1974-75 Michigan Educational Assessment Program, Second Report.)

SECTION I

LISTING OF THE EDUCATIONAL ASSESSMENT MEASURES

The measures reported in the 1974-75 Michigan Educational Assessment Program are listed in TABLE 1 grouped into seven major categories: (A) Human Resources; (B) District Financial Resources; (C) Percent Minority; (D) Dropout Rate; (E) Student Achievement; (F) Size Measures; and (G) Attitudes (optional). Sources of the information used to compute each measure and definitions of the measures appear in APPENDIX B. TABLE 1 also shows which measures are reported at the district level and which are reported at the school level. Eight of the twenty-two items are reported only at the district level.

The 1974-75 educational assessment program provided achievement measures for every fourth and seventh grade public school student in mathematics and reading. A test of verbal analogies—the Word Relationships measure—was offered on an optional basis and was administered in approximately half of the state's districts.

The mathematics and reading tests are objective-referenced in design, and each contains items that measure a selected set of minimal performance objectives in the two subject areas. The objectives tested were selected from those developed by educators in the state and adopted by the State Board of Education. These objectives represent certain minimal expectancies which almost all beginning fourth and seventh grade students in Michigan should attain.

The objectives tested this year are similar to those tested in 1973-74 and are listed in APPENDIX A. The Department of Education removed some objectives from the 1973-74 assessment because of difficulties with the objectives themselves or with the items which were used to test attainment of the objectives. However, for the most part, the objectives tested in 1974-75 are identical to those tested in 1973-74.

The mathematics test at fourth grade measures thirty of the state's minimal performance objectives. The seventh grade test contains measures of forty objectives. There are five multiple-choice test items for each objective in both tests, and several items are designed to be read to the student by the test administrator.

TABLE I

A LIST OF THE TWENTY-TWO MEASURES REPORTED AT THE DISTRICT OR SCHOOL LEVEL

MEASURES		District	School
A.	Human Resources		
(1)	Professional Instructional Staff per 1,000 Pupils	X	X
(2)	Teachers per 1,000 Pupils	X	X
(3)	Average Years Teaching Experience	X	X
(4)	Percent of Teachers with Master's Degree or Above	X	X
(5)	Average Contracted Salary per Teacher	X	X
B.	District Financial Resources		
(6)	State Equalized Valuation per Resident Member (1972-73)	X	
(7)	Local Revenue per Pupil (1972-73)	X	
(8)	State School Aid per Pupil (1972-73)	X	
(9)	K-12 Instructional Expense per Pupil (1972-73)	X	
(10)	Elementary Instructional Expense per Pupil (1972-73)	X	
(11)	Total Current Operating Expense per Pupil (1972-73)	X	
(12)	Total Operating Millage (1972-73)	X	
C.	Percent Minority		
(13)	Percent of Racial-Ethnic Minority Students	X	X
D.	Dropout Rate		
(14)	School Dropout Rate (1972-73)	X	
E.	Student Achievement (Provided separately for grades 4 and 7)		
(15)	Word Relationships* (Optional)	X	X
(16)	Reading*	X	X
(17)	Mathematics*	X	X
F.	Size Measures		
(18)	Grade 4 Membership	X	X
(19)	Grade 7 Membership	X	X
(20)	Total Membership	X	X
G.	Attitudes (Optional)		
(21)	Attitude toward Self*	X	X
(22)	Attitude toward School*	X	X

NOTE: Undated measures are based on 1973-74 data.
* Reported also at the classroom level.

The fourth grade reading test contains measures of nineteen minimal performance objectives while the seventh grade test measures twenty objectives. As with the mathematics test, there are five test items that measure each objective at both grades. The fourth grade test contains several items that are to be read to students by the test administrator.

The Word Relationships test is a norm-referenced test which measures knowledge of the meanings of words and the understanding of relationships among words and concepts through the use of verbal analogy items. The Word Relationships test is an adaptation of the verbal part of the School and College Ability Test developed by Educational Testing Service, Princeton, N.J., which is a nationally normed test. This test is considered by the Michigan Department of Education to be an indicator of developed verbal ability and, hence, predictive of potential success in school related tasks and reflective of one's past successes.

The 1974-75 Michigan Educational Assessment Program optional attitude tests are identical with those offered to school districts in 1973-74. These tests are reliable indicators of attitudes of groups of students but not of individual attitudes.

The attitude instruments are completed anonymously and yield information on attitude toward school and attitude toward self. The survey consists of thirty questions—fifteen for each attitude dimension. All of the questions are of a forced-choice variety with only three choices for each item.

SECTION II

DESCRIPTION OF THE MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM SCHOOL AND DISTRICT REPORTS

Achievement Test Data

Local educators will receive several types of data reports for the mathematics and reading objective-referenced tests. Some of these reports (the individual student report, classroom summary report, and classroom listing report) are described in the booklet **Individual Student and Classroom Reports: Explanatory Materials.** The reports which summarize school building and school district data are discussed in this section.

School Summary

Each school district will receive a summary of the mathematics a .g test results for each school which tested fourth and seventh grade students. The report fo hich this information is found is titled the Classroom, School, or District Summary because it is used to report summaries at these three levels. FIGURE 1 is an illustration of a school report for "Able Elementary," a hypothetical school.

Section A of the report contains necessary identification information: the type of report (whether a school or district summary), the five-digit district code, the four-digit school code, and the grade tested.

Section B shows the percent of students who correctly responded to 0, 1, 2, 3, 4, or 5 items for each of the performance objectives in mathematics and reading. These frequency distributions show how close students who did not attain an objective came to attaining it.

Section C of the report shows the percentage of pupils that attained each objective. Each student must correctly answer four or more of the five test items that measure each objective in order to be classified as attaining the objective. Section D shows the total number of students tested in each school or school district.

SCHOOL SUMMARY

DISTRICT CODE 92-010 MICHVILLE

A → SCHOOL CODE 7129 ABLE ELEM

GRADE FOUR

DATE TESTED 10/74

CLASSROOM, SCHOOL OR DISTRICT SUMMARY

WORD RELATIONSHIPS (OPTIONAL)

STAND SCORE INTERVAL	FREQUENCY	PERCENT IN INTERVAL
70-74	0	0
65-69	1	3
60-64	0	0
55-59	2	6
50-54	4	12
45-49	7	21
40-44	6	18
35-39	4	12
30-34	3	9
25-29	3	9
20-24	2	6
15-19	1	3
33	NUMBER OF PUPILS	

* * * * * * HUMAN AND FINANCIAL RESOURCE INFORMATION * * *

* * * HUMAN RESOURCES * * *

44.6	PROFESSIONAL INSTRUCTIONAL STAFF PER 1000 PUPILS
40.6	TEACHERS PER 1000 PUPILS
5.3	AVERAGE YEARS TEACHING EXPERIENCE
9.3%	PERCENT OF TEACHERS WITH MASTERS DEGREE OR ABOVE
$8,955	AVERAGE CONTRACTED SALARY PER TEACHER

* * * PERCENT MINORITY * * * ← I

5.3%	PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS

* * * SIZE MEASURES * * *

33	GRADE 4 MEMBERSHIP
152	TOTAL MEMBERSHIP

H

PERCENT OF STUDENTS ANSWERING

							NUMBER OF PUPILS		OBJECTIVE	OBJECTIVE CODE
									* * * * * * MATHEMATICS * * * * * *	
B→2	7	2	2	3	84	87	33	1	INDICATE OBJECTS THAT ARE SAME SIZE	AR-I-A-6
3	3	2	3	2	87	89	33	2	INDICATE SIMILAR GEOMETRIC SHAPES	AR-I-A-8
8	8	4	9	9	62	71	33	3	INDICATE OBJECTS ARRANGED FULL TO EMPTY	AR-I-A-16
1	2	1	1	5	90	95	33	4	INDICATE LONGEST AND SHORTEST OBJECTS	AR-I-A-24
3	1	6	2	1	87	88	33	5	INDICATE FIRST AND LAST	AR-I-A-39
2	3	6	5	10	74	84	33	6	CHOOSE EQUIVALENT SETS	AR-I-B-7 ← G
8	12	2	5	16	57	73	33	7	CHOOSE SETS HAVING FEWER NUMBERS	AR-I-B-32
6	6	5	14	17	52	69	33	8	INDICATE APPROPRIATE NUMERAL FOR POINT ON A LINE	AR-I-B-40
1	1	6	7	9	76	85	33	9	CHOOSE GREATEST AND LEAST NUMBER	AR-I-B-43
2	6	2	2	2	86	88	33	10	CHOOSE NUMBER BETWEEN TWO NUMBERS	AR-I-B-44
1	3	2	8	13	73	86	33	11	CHOOSE NUMBER BEFORE OR AFTER A NUMBER	AR-I-B-45
1	3	3	9	16	64	80	33	12	IDENTIFY A NUMERAL LESS THAN A 100	AR-I-B-64
3	3	10	8	16	60	76	33	13	INDICATE NUMBER BEFORE OR AFTER NUMBER WITHIN A DECADE	AR-I-B-65
0	1	1	7	19	72	91	33	14	INDICATE WHICH OF 2 NUMBERS IS GREATER OR LESS	AR-I-B-67
7	3	3	9	15	63	78	33	15	INDICATE THE VALUES OF A SET OF DIMES AND PENNIES	AR-I-B-70
8	15	9	14	23	31	54	33	16	CHOOSE LIST OF NUMBERS IN ASCENDING ORDER	AR-I-B-81
1	2	3	3	20	71	91	33	17	INDICATE GREATER OR LESS/SCRAMBLED POSITIONS	AR-I-B-82
0	1	5	6	29	56	85	33	18	INDICATE NEXT NUMBER IN A SEQUENCE	AR-I-B-84

								OBJECTIVE	OBJECTIVE CODE
3	15	4	12	8	58	66	33	19	INDICATE A NUMBER THAT IS A MULTIPLE OF 2	AR-I-B-85
2	15	27	10	16	30	46	33	20	SELECT SET WITH TWICE AS MANY MEMBERS AS ANOTHER	AR-I-B-86
0	1	1	1	7	90	97	33	21	ADD TWO-DIGIT AND ONE-DIGIT NUMBER/NO CARRYING	AR-II-A-10
10	8	4	5	10	63	73	33	22	NUMBER SENTENCES/SUBTRACTION	AR-II-B-9
2	3	3	12	23	57	80	33	23	NUMBER SENTENCES/ADDITION OR SUBTRACTION-IDENTIFY OPERATION	AR-II-B-11
10	10	7	7	17	49	66	33	24	NUMERICAL SET COMPARISONS	AR-II-B-13
1	0	5	3	13	78	91	33	25	SUBTRACT ONE-DIGIT FROM TWO-DIGIT NUMBER/NO BORROWING	AR-II-B-15
1	0	5	2	16	76	92	33	26	SUBTRACT TWO-DIGIT FROM TWO-DIGIT NUMBER/NO BORROWING	AR-II-B-16
1	0	3	5	14	77	91	33	27	TELLING TIME	M-II-A-6
1	4	7	15	22	53	75	33	28	IDENTIFY GREATEST OR LEAST AMOUNTS OF MONEY	M-II-B-3

FIGURE 1: CLASSROOM, SCHOOL OR DISTRICT SUMMARY

Section E contains the number assigned for 1974-75 to each mathematics and reading objective measured. A brief description of the objective appears in Section F. These brief descriptions are designed to help the educator remember the complete wording of the objectives which can be found in APPENDIX A or in the booklets of minimal performance objectives which have been sent to each school district in the state.

The objective codes given in Section G refer to the coding system used in the complete set of mathematics and reading objectives.

Section H contains a summary of the Word Relationships scores for the school if the district participated in this optional test. This summary contains a distribution of standard scores on the test which shows the number and percent of students whose scores fall into each score interval. These standard scores are expressed in the units established in January, 1970. The total number of students who took the Word Relationships test is also provided.

Section I is used to present data on school human and financial resources reported at the school level. All of the variables listed in TABLE 1 to be reported at the school level are given in Section I with the exception of the student achievement data (reported in Sections B through G of this report) and the optional attitude scores which are provided and explained in a separate report.

To assist in interpretation of the school averages shown in Section I of the school report, norm tables will be provided each school district. A school norm table will be established for the fourth and for the seventh grade levels. These norms represent a distribution of the data reported for each of the state's schools which participated in the assessment. Simply stated, their use permits one to compare a local school building average against those received by other schools.

These norms tables are useful because they permit the construction of descriptive profiles of the human and financial resource information. While such profiles are useful for descriptive purposes, they are not necessarily useful for predictive purposes. One should not assume that the same relative level of scores will be achieved on all areas for which norms are provided.

District Summary

FIGURE 2 illustrates the district summary form. Michville Public Schools is used as a hypothetical school district in FIGURE 2 to illustrate with fictitious data the format of the district summary.

As mentioned previously, the same report form is used to present the school and district summary reports. Sections A through H of the district summary contain the same type of information as the school summary, except, of course, that the district summary report summarizes the data from all schools in the district. Section I of the district summary contains the list of the human and financial resource variables from TABLE I and have been aggregated for the entire school district.

As with the school summaries, norm tables will be provided to each school district to assist in the interpretation of the Word Relationships scores and the human and financial resources. Use of these tables permit one to compare the district's scores against those of other districts in the state.

PUPIL ATTITUDE QUESTIONNAIRE

Two reports are provided at the classroom level to districts which elected the Pupil Attitude Questionnaire option. These are: (1) the Pupil Attitude Questionnaire Report, and (2) the Pupil Attitude Questionnaire Summary.

Pupil Attitude Questionnaire Report

FIGURE 3 (on page 10) shows a typical Pupil Attitude Questionnaire Report. This report is provided for each district, school, and classroom that was separately identified. The information provided in this report may be helpful in suggesting particular aspects of the students' attitudes which may be contributing to the overall results.

A heading at the top of the report identifies the district, school, grade, and number of pupils tested. Below the heading appear the results of the tests shown item by item. For each of the two tests, the following information is shown:

1) the item numbers which measure each attitude;
2) the percentage of students selecting the answer "true," "not sure," and "false" to the item;
3) the percentage of pupils who give no response to the item; and
4) the desired response (indicated by an asterisk).

DISTRICT SUMMARY

DISTRICT MICHVILLE
CODE 92-010

A → SCHOOL CODE

GRADE FOUR

DATE TESTED 10/74

CLASSROOM, SCHOOL OR DISTRICT SUMMARY

WORD RELATIONSHIPS (OPTIONAL)

STAND SCORE INTERVAL	FREQUENCY	PERCENT IN INTERVAL
70-74	3	4
65-69	4	5
60-64	3	4
55-59	5	7
50-54	7	10
45-49	10	14
40-44	9	13
35-39	6	9
30-34	8	12
25-29	6	9
20-24	5	7
15-19	4	5
70	NUMBER OF PUPILS	

H

:: :: :: :: :: HUMAN AND FINANCIAL RESOURCE INFORMATION :: :: :: ::	
:: :: :: HUMAN RESOURCES :: :: ::	
58.8	PROFESSIONAL INSTRUCTIONAL STAFF PER 1000 PUPILS
40.5	TEACHERS PER 1000 PUPILS
6.4	AVERAGE YEARS TEACHING EXPERIENCE
5.3%	PERCENT OF TEACHERS WITH MASTERS DEGREE OR ABOVE
$8,827	AVERAGE CONTRACTED SALARY PER TEACHER
:: :: :: DISTRICT FINANCIAL RESOURCES :: :: ::	
$70,445	ST. EQUALIZED VALUATION PER RES. MEMBER(1972-73)
122	LOCAL REVENUE PER PUPIL (1972-73)
844	STATE SCHOOL AID PER PUPIL (1972-73)
855	K-12 INSTRUCTIONAL EXPENSE PER PUPIL (1972-73)
162	ELEM. INSTRUCTIONAL EXPENSE PER PUPIL (1972-73)
7,843	TOTAL CURRENT OPERATING EXP. PER PUPIL(1972-73)
20.90	TOTAL OPERATING MILEAGE
:: :: :: PERCENT MINORITY :: :: ::	
2.9%	PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS
:: :: :: DROPOUT RATE :: :: ::	
0.0	SCHOOL DROPOUT RATE (1972-73)
:: :: :: GR 4 MBRSHIP: 70 TOT MBRSHIP: 348	

I

G

PERCENT OF STUDENTS ANSWERING							NUMBER OF PUPILS		OBJECTIVE	OBJECTIVE CODE
									:: :: :: :: :: :: MATHEMATICS :: :: :: :: :: ::	
0	1	5	6	29	56	85	70	1	INDICATE OBJECTS THAT ARE SAME SIZE	AR-I-A-6
1	3	5	5	20	71	91	70	2	INDICATE SIMILAR GEOMETRIC SHAPES	AR-I-A-8
8	15	9	14	23	31	54	70	3	INDICATE OBJECTS ARRANGED FULL TO EMPTY	AR-I-A-16
7	3	3	3	13	61	78	70	4	INDICATE LONGEST AND SHORTEST OBJECTS	AR-I-A-24
0	1	1	7	19	72	91	70	5	INDICATE FIRST AND LAST	AR-I-A-39
3	3	10	8	16	60	76	70	6	CHOOSE EQUIVALENT SETS	AR-I-A-7
1	7	3	9	16	64	80	70	7	CHOOSE SETS HAVING FEWER NUMBERS	AR-I-A-32
1	3	2	8	13	72	86	70	8	INDICATE APPROPRIATE NUMERAL FOR POINT ON A LINE	AR-I-B-38
2	6	2	2	2	86	88	70	9	CHOOSE GREATEST AND LEAST NUMBER	AR-I-B-43
1	1	6	7	9	76	85	70	10	CHOOSE NUMBER BETWEEN TWO NUMBERS	AR-I-B-44
6	6	5	14	17	52	69	70	11	CHOOSE NUMBER BEFORE OR AFTER A NUMBER	AR-I-B-45
8	13	4	5	16	37	73	70	12	IDENTIFY A NUMERAL LESS THAN A 100	AR-I-B-64
2	3	6	5	10	74	84	70	13	INDICATE NUMBER BEFORE OR AFTER A NUMBER WITHIN A DECADE	AR-I-B-65
3	1	6	2	1	87	88	70	14	INDICATE WHICH OF 2 NUMBERS IS GREATER OR LESS	AR-I-B-67
1	2	1	1	5	90	95	70	15	INDICATE THE VALUES OF A SET OF DIMES AND PENNIES	AR-I-B-70
7	8	4	9	9	62	71	70	16	CHOOSE LIST OF NUMBERS IN ASCENDING ORDER	AR-I-B-81
3	3	2	3	2	87	89	70	17	INDICATE GREATER OR LESS/SCRAMBLED POSITIONS	AR-I-B-82
3	7	2	3	3	84	87	70	18	INDICATE NEXT NUMBER IN A SEQUENCE	AR-I-B-84

									OBJECTIVE	OBJECTIVE CODE
1	0	3	5	14	77	91	70	19	INDICATE A NUMBER THAT IS A MULTIPLE OF 2	AR-I-B-85
1	0	5	3	16	76	92	70	20	SELECT SET WITH TWICE AS MANY MEMBERS AS ANOTHER	AR-I-B-86
1	0	5	3	13	78	91	70	21	ADD TWO-DIGIT AND ONE-DIGIT NUMBER/NO CARRYING	AR-II-A-10
10	10	7	7	17	49	66	70	22	NUMBER SENTENCES/SUBTRACTION	AR-II-B-9
2	3	3	12	23	57	80	70	23	NUMBER SENTENCES/ADDITION OR SUBTRACTION-IDENTIFY OPERATION	AR-II-B-11
10	9	4	3	10	63	73	70	24	NUMERICAL SET COMPARISONS	AR-II-B-13
0	1	1	1	7	90	97	70	25	SUBTRACT ONE-DIGIT FROM TWO-DIGIT NUMBER/NO BORROWING	AR-II-B-15
2	15	17	10	16	38	54	70	26	SUBTRACT TWO-DIGIT FROM TWO-DIGIT NUMBER/NO BORROWING	AR-II-B-16
3	15	4	12	8	58	66	70	27	TELLING TIME	M-II-A-6
0	8	9	21	17	14	31	70	28	IDENTIFY GREATEST OR LEAST AMOUNTS OF MONEY	M-II-B-3

FIGURE 2: DISTRICT SUMMARY

PUPIL ATTITUDE QUESTIONNAIRE REPORT

DISTRICT NAME: NORTHEAST SCH DIST
CODE: 55-345

SCHOOL NAME: CENTRAL ELEM
CODE: 7120

TEACHER NAME: MS O'NEILL

GRADE: FOUR

DATE TESTED: 10/74

NUMBER OF PUPILS: 20

MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM 1974-75 (YEAR 6)

ATTITUDE TOWARD SCHOOL

ITEM NUMBER	1	3	5	7	8	10	12	15	16	19	21	24	27	29	30
TRUE (%)	75*	85*	70*	20	65*	80*	95*	85*	50*	25	80*	90*	15	10	90*
NOT SURE (%)	10	0	5	0	15	5	0	0	45	5	5	5	0	0	0
FALSE (%)	15	15	25	80*	15	15	5	15	5	70*	15	5	85*	90*	10
NO RESPONSE (%)	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0

ATTITUDE TOWARD SELF

ITEM NUMBER	2	4	6	9	11	13	14	17	18	20	22	23	25	26	28
TRUE (%)	10	5	15	20	25	25	5	5	85*	10	85*	10	80*	10	75*
NOT SURE (%)	5	5	5	15	5	0	5	5	5	0	0	0	5	0	15
FALSE (%)	80*	90*	75*	50*	65*	75*	85*	90*	5	90*	15	90*	10	85*	10
NO RESPONSE (%)	5	0	5	15	5	0	5	0	5	0	0	0	5	5	0

FIGURE 3: PUPIL ATTITUDE QUESTIONNAIRE REPORT

Pupil Attitude Questionnaire Summary

FIGURE 4 (on page 12) shows an example of the Pupil Attitude Questionnaire Summary for a hypothetical school called Abi Elementary. This summary report is provided for every district, school, and classroom which participates in the testing and which is separately identifiable.

On this report, the heading identifies the grade level, district, school, and number of pupils tested. Below the heading, the results are presented in two broad columns, one for each attitude measured. Under each broad column for an attitude are the test results displayed in terms of a raw score distribution and a converted score distribution.

The distribution of raw scores is obtained by scoring each student's responses such that a favorable response is counted as plus one, an unfavorable response is counted as minus one, and a "not sure" answer is given a zero score. When the students' answers are summarized across the district, school, or classroom the raw score distribution is obtained.

The converted score distribution is a simple alteration in the scale designed to remove the negative scores from the raw score distribution. Suggested interpretations of the scores are:

5 - Very Favorable

4 - Favorable

3 - Neutral

2 - Unfavorable

1 - Very Unfavorable

After all data have been processed, a statewide summary will be distributed to all districts along with a list of the districts that administered the attitude tests at each grade level. Because the revised questionnaires have been administered on a voluntary basis statewide, it is not possible to provide statewide norms.

PUPIL ATTITUDE QUESTIONNAIRE SUMMARY

DISTRICT NAME NORTHEAST DISTRICT CODE 55-345 MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM

SCHOOL NAME ABLE ELEM SCHOOL CODE 7160 1974-75 (YEAR 6)

TEACHER MS. O'NEILL

GRADE FOUR NUMBER OF PUPILS TESTED 20 DATE TESTED 10/74

* * * * ATTITUDE TOWARD SCHOOL * * * * * * * * * * ATTITUDE TOWARD SELF * * *

RAW SCORE	CONVERTED SCORE	PERCENT PUPILS	NUMBER PUPILS	RAW SCORE	CONVERTED SCORE	PERCENT PUPILS	NUMBER PUPILS
10 TO 15	5	35	7	10 TO 15	5	35	7
4 TO 9	4	25	5	4 TO 9	4	30	6
-3 TO 3	3	25	5	-3 TO 3	3	20	4
-9 TO -4	2	10	2	-9 TO -4	2	10	2
-15 TO -10	1	5	1	-15 TO -10	1	5	1

FIGURE 4: PUPIL ATTITUDE QUESTIONNAIRE SUMMARY

SECTION III

INTERPRETATION OF THE OBJECTIVE-REFERENCED TEST RESULTS

The objective-referenced tests used in the 1974-75 educational assessment are improved versions of the tests used in the previous year. Because these tests are so different from the norm-referenced survey tests used frequently in local school testing programs, it is worthwhile to consider a few important points which relate to the interpretation of the test results.

Nature of Minimal Performance Objectives

The performance objectives measured by the assessment tests are minimal objectives. They describe some of the skills which most beginning fourth and seventh grade students should possess. They do not include many of the reading and mathematics objectives that educators would consider important for "average" or "advanced" students to know at the beginning of fourth or seventh grade. Thus, some students will have attained considerably more knowledge and skill in these areas than is measured by these tests.

Minimal Objectives Not All Inclusive

The objectives included in the 1974-75 assessment program constitute a sub-set of the minimal objectives developed by the Department of Education. There are many other objectives yet to be tested in reading and mathematics and in the other academic areas which local districts may wish to include in a local assessment.

More importantly, perhaps, it must be remembered that the minimal objectives do not constitute a complete curriculum for a school. Local educators should develop their own objectives which meet their own needs to supplement the state minimal objectives.

Presence of Criterion Levels

It is important for local educators to remember that the criterion level for attainment of each objective has been set at four out of five test items. At this level, the chance of a pupil exceeding the criterion score by guessing is acceptably low (about 2%). However, since multiple choice questions were used, it is possible for a small percentage of students to attain some objectives by guessing—particularly if the student can eliminate some of the incorrect answers. Unfortunately, it is not possible to determine accurately the number of students who would be misclassified.

Relationships Among Educational Assessment Variables

Past research has indicated that certain background characteristics (i.e., their relative socioeconomic status, attitudes, and aspirations) and the quality of the instructional staff are related to achievement. In addition, available information has shown that the amount of financial resources spent by a district is related to school achievement. Schools with more financial resources are generally able to provide a greater variety of instructional programs and support for the teaching staff.

These conclusions have been derived from research studies utilizing large groups of school districts and schools. It must not be assumed, however, that the relationships among achievement and other variables would be reflected in the reports of individual districts and schools. Moreover, causal relationships have not been substantiated either by the previous research or by the Michigan Educational Assessment Program data. While causality may actually exist, the present data are not sufficient to demonstrate it.

SECTION IV

CONCLUSIONS

The objective-referenced achievement tests, the word relationships test, and the attitude tests provide local educators with a wealth of usable data. However, these data must be utilized with care and only after adequate interpretation and analysis.

The purpose of the educational assessment is to assist in the identification of specific educational needs of students. The results are most appropriately useful in planning instruction or reinstruction of the students tested, to identify weaknesses in the curriculum of prior grades, or to indicate needs for professional development activities. It is not the purpose of the assessment program to place blame but, instead, to encourage all those involved in education (teachers, counselors, administrators, curriculum specialists, school board members, parents, students, and others) to examine the results to determine how the entire system can better meet the needs of all students.

Finally, although great care has been taken to prevent errors from occurring in the assessment data, it is possible that mistakes in processing may have happened. If you find reason to question any part of your school or district reports, or if you need further information, please contact a staff member of the assessment program by writing (or calling) the Michigan Department of Education, Research, Evaluation and Assessment Services, Box 420, Lansing, Michigan 48902 (517-373-8393).

APPENDIX A

MINIMAL PERFORMANCE OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM,
GRADES FOUR AND SEVEN

READING OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM*
Grade 4

	Objective Number	
1.	2.1	Given a reading selection at the third grade level, the learner will match a series of words in the selection with appropriate definitions.
2.	2.2	Given a set of phrases, the student will indicate those phrases which have the same meaning.
3.	3.2	Given a reading selection at the third grade level in which every fifth word has been replaced with a blank, the learner will choose the exact word appropriate to the blank space at 50% accuracy.
4.	4.1	Given a method of arranging data, the learner will identify the method (e.g., color, size, importance, time, etc.)
5.	4.4	Given a series of randomly placed words, the learner will be able to alphabetize the words through the first three letters.
6.	5.1	Given a series of reading selections, the learner will indicate those which are factual.
7.	5.2	Given a series of reading selections, the learner will indicate those which are fictional.
8.	6.1-6.3	Given a reading selection, the learner will be able to identify the author's purpose (e.g., persuasion, entertainment, propaganda, etc.)
9.	7.1	Given a reading selection at the third grade level, the learner will select from a list of possible titles the one most appropriate as the title for that selection.
10.	7.2	Given a reading selection at the third grade level, the learner will select from a series of still pictures the one picture most appropriate in depicting the main idea of the selection.
11.	7.3	Given a reading selection at the third grade level, the learner will select from a number of short summaries the one which best summarizes the selection.
12.	8.4	Given a reading selection at the third grade level, the learner will match a series of direct quotations from the story with the character who is speaking.
13.	10.3	Given a reading selection at the third grade level, the learner will choose from a series of sentences that sentence which best describes how a given character feels in a story.
14.	10.6	Given a selection containing figurative language, the learner will identify from a series of descriptive phrases the phrase that most accurately describes the mood expressed in the selection.

*This list contains only the objectives which are included in the every-pupil portion of the 1974-75 MEAP tests. A complete set of the objectives is available in **Minimal Performance Objectives for Communication Skills Education in Michigan,** Michigan Department of Education.

15. 11.1 Given a reading selection at the third grade level, the learner will correctly match a series of causes with a corresponding series of effects.

16. 11.2 Given a reading selection at the third grade level with the conclusion of the story deleted, the learner will select from a series of possible conclusions the one most appropriate to the selection.

17. 13.1 Given a locational question, the learner will choose from a series of reference sources where that item will be found.

18. 13.2 Given a locational question about newspapers, the learner will select the section where he would find the answer.

19. 14.1-14.3 Given a reading selection at the third grade level, the learner will answer correctly a series of multiple choice questions relating to meanings, generalizations, or conclusions not expressed in the selection itself.

READING OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
Grade 7

	Objective Number	
1.	18.1	Given a reading selection at the sixth grade level, the learner will match a series of words in the selection with appropriate definitions.
2.	18.2	Given a set of phrases, the learner will indicate those phrases which have the same meaning.
3.	20.1	Given a method of arranging data, the learner will identify the method (e.g., sequence, importance, etc.).
4.	21.1	Given a series of randomly placed words, the learner will be able to alphabetize the words through the first three letters.
5.	22.1	Given a series of reading selections, the learner will indicate those which are factual.
6.	22.2	Given a series of reading selections, the learner will indicate those which are fictional.
7.	23.1-23.3	Given a reading selection, the learner will be able to identify the author's purpose (e.g., persuasion, entertainment, propaganda, etc.).
8.	24.1	Given a reading selection at the sixth grade level, the learner will select from a list of possible titles the one most appropriate as the title for that selection.
9.	24.2	Given a reading selection at the sixth grade level, the learner will select from a series of still pictures the one picture most appropriate in depicting the main idea of the selection.
10.	24.3	Given a reading selection at the sixth grade level, the learner will select from a number of short summaries the one which best summarizes the selection.
11.	24.4	Given a series of three or more reading selections at the sixth grade level, the learner will indicate the two most alike in the ideas expressed.
12.	25.3	Given a reading selection at the sixth grade level, the learner will match a series of direct quotations from the story with the character who is speaking.
13.	26.3	Given a reading selection at the sixth grade level, the learner will correctly answer a series of multiple choice questions relating to the sequence of events or ideas presented in the selection.
14.	27.2	Given a reading selection at the sixth grade level, the learner will choose from a series of sentences that sentence which best describes how a given character feels in a story.
15.	28.1	Given a reading selection at the sixth grade level, the learner will choose from a series of sentences the one which best describes a motive for some action or activity.

16. 29.1 Given a reading selection at the sixth grade level, the learner will correctly match a series of causes with a corresponding series of effects.

17. 29.5 Given a reading selection at the sixth grade level, the learner will answer correctly a series of multiple choice questions relating to meanings, generalizations, or conclusions not expressed in the selection itself.

18. 31.1 Given a locational question, the learner will choose from a series of reference sources where that item will be found.

19. 31.2 Given a locational question about newspapers, the learner will select the section where he would find the answer.

20. 32.1 Given a reading selection at the sixth grade level with the conclusion of the story deleted, the learner will select from a series of possible conclusions the one most appropriate to the selection.

MATHEMATICS OBJECTIVES MEASURED IN THE 1974-75 MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM*
Grade 4

Objective Number		
1.	AR-I-A-6	Given a set of objects, the learner will recognize objects that are the same **size.**
2.	AR-I-A-8	Given an object shaped like a circle, triangle, square, or rectangle, the learner will choose the shape the object represents.
3.	AR-I-A-16	Given a set of three containers, one full, one empty, and one half-filled, the learner will choose the containers that are arranged from full to empty.
4.	AR-I-A-24	Given a collection of five objects of varying lengths, the learner will identify the **longest** or the **shortest**, as requested.
5.	AR-I-A-39	Given five small toys in a line, the learner will identify the **first** toy and the **last** one.
6.	AR-I-B-7	Given a set with less than ten objects, the learner will identify an equivalent set.
7.	AR-I-B-32	Given a set of two to eight objects, the learner will identify a set having fewer members than the original set.
8.	AR-I-B-40	Given a line marked with congruent segments and a set of number cards (0-10), the learner will choose the appropriate number card for the point on the line.
9.	AR-I-B-43	Given any three numbers, 0-10, the learner will identify which number is the greatest and which is the least, on request.
10.	AR-I-B-44	Given two consecutive even or odd numbers, 0-9, the learner will name the number that comes **between** the two given numbers.
11.	AR-I-B-45	Given a number from 1 to 8, the learner will identify the number that comes **before** or **after** the given number.
12.	AR-I-B-64	Given a set of tens and ones representing a number less than 100, the learner will identify the numeral.
13.	AR-I-B-65	Given a set of sequentially ordered whole numbers within a decade less than 100, such as 31, 32, . . . 40, the learner will identify the number that comes immediately before or after a given number, as requested.

*This list contains only the objectives which are included in the every-pupil portion of the 1974-75 MEAP tests. A complete set of the objectives is available in the **Minimal Performance Objectives for Mathematics in Michigan,** Michigan Department of Education, 1973. The wording of the objectives in this APPENDIX may be different from the original wording as contained in the publication cited above. These minor wording changes were necessitated by the group-administered nature of the items developed to measure the objectives.

14. AR-I-B-67 Given 2 two-digit numbers, the learner will tell which number is greater and which number is less.

15. AR-I-B-70 Given a set of dimes and pennies valued between 11 and 99 cents (one dime, one penny to nine dimes, nine pennies), the learner will state the value.

16. AR-I-B-81 Given a random list of two- or three-digit numbers, the learner will identify the list that is in ascending order.

17. AR-I-B-82 Given 2 three-digit numbers which have the same digits but in different positions, the learner will compare them to determine which is greater and which is less.

18. AR-I-B-84 Given a counting sequence of two or four numbers, the learner will write the next number in the sequence.

19. AR-I-B-85 Given the counting numbers 1-10, the learner will indicate those that are multiples of 2.

20. AR-I-B-86 Given a set of objects, the learner will select another set that will have twice as many objects.

21. AR-II-A-10 Given addition exercises involving a two-digit number plus a one-digit number requiring no regrouping (carrying), the learner will find the sums with or without the use of aids.

22. AR-II-B-9 Given a set of objects or pictures showing a subtraction relationship with combinations to 18, the learner will identify an appropriate number sentence.

23. AR-II-B-11 Given a subtraction word problem read by the teacher involving combinations to 18, the learner will: 1) identify the operation, 2) identify an appropriate number sentence, and 3) identify the answer.

24. AR-II-B-13 Given two sets of objects, one with more objects than the other, the learner will identify how many more members it has.

25. AR-II-B-15 Given a two-digit number, the learner will subtract one-digit numbers with no regrouping (borrowing) with or without the use of aids.

26. AR-II-B-16 Given a two-digit number, the learner will subtract a two-digit number with no regrouping (borrowing).

27. M-II-A-6 Given the reading "_____o-clock" and a clock face, the learner will identify the clock showing the appropriate time.

28. M-II-B-3 Given three to five different amounts of money, all less than or equal to $5.00, the learner will identify the greatest or the least.

29. M-II-C-1 Given a Fahrenheit or Centigrade thermometer, the learner will identify the temperature (above zero) to the nearest degree.

30. G-I-A-2 Given pictures of various shapes, the learner will identify circles, triangles, squares, and rectangles as requested.

MATHEMATICS OBJECTIVES
MEASURED IN THE 1974-75
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
Grade 7

Objective Number		
1.	AR-I-B-87	Given any four-digit number, the learner will identify the number that is 100 or 1000 more or less than it is, without using formal addition or subtraction.
2.	AR-I-B-89	Given a number orally, the learner will identify the arabic numeral.
3.	AR-II-A-22	Given addition exercises involving a three-digit number plus a one-, two-, or three-digit addend, with or without regrouping (carrying), the learner will identify the sums, using any techniques.
4.	AR-II-A-26	Given addition problems involving two or three addends with three, four, five, or six digits, with or without regrouping, the learner will find the sums, using any techniques.
5.	AR-II-B-20	Given a three-digit number the learner will subtract a two or three-digit number, with or without the use of aids.
6.	AR-II-C-6	Given a repeated addition sentence, the learner will represent it as a multiplication sentence with its product.
7.	AR-II-C-11	Given two numbers, the learner will demonstrate that the order in which they are multiplied does not change the product.
8.	AR-II-C-13	Given a one-digit number and (10,20...), (100,200...), the learner will identify the product.
9.	AR-II-C-15	Given a two-digit number to be multiplied by a one-digit number, the learner will identify the product, with or without aids.
10.	AR-II-D-5	Given a sentence with one single digit, a missing factor, and a product (whole numbers), the learner will identify the missing factor.
11.	AR-II-D-7	Given a division fact, the learner will identify it rewritten as a multiplication fact.
12.	AR-II-D-9	Given a one-digit divisor (factor) and a dividend (product) of less than 100, the learner will identify the quotient (missing factor) if there is no remainder.
13.	AR-II-D-15	Given an exercise with a dividend of four digits or less, and a one-digit divisor, the learner will identify the quotient.
14.	AR-III-A-1	Given several objects, some dividend into congruent parts, some divided into noncongruent parts, the learner will identify congruent parts.
15.	AR-III-A-18	Given a diagram divided into congruent parts, with some parts shaded, the learner will identify the shaded area by identifying an appropriate fraction.

16. AR-III-A-19 Given any five fractions with like denominators, in random order, the learner will identify them in order (halves, thirds, fourths, fifths, sixths, eighths, tenths); with or without the use of aids.

17. AR-III-B-4 Given two common fractions with like denominators and a sum greater than 1, the learner will identify the sum, with or without the use of fractional cut-out parts.

18. AR-III-B-7 Given two mixed numbers with like denominators, the learner will identify the sum.

19. AR-III-C-4 Given a mixed number and a fraction with like denominators, of 2, 3, 4, 6, or 8, where no regrouping is necessary, the learner will find the difference.

20. AR-III-C-6 Given a whole number and a common fraction with a denominator of 2, 3, 4, 6, or 8, the learner will find the difference with or without the use of fractional parts.

21. AR-III-D-4 Given two unit fractions with denominators less than seven, the learner will identify the product with or without the use of a model.

22. AR-IV-A-3 Given a model of a fraction illustrating hundredths, the learner will identify the decimal fraction as illustrated.

23. AR-IV-A-7 Given a decimal fraction of no more than three places, the learner will name the place value of each digit, without aids.

24. AR-IV-B-3 Given a verbal problem involving addition and subtraction of decimal numbers involving only tenths, the learner will find the answer.

25. AR-IV-B-6 Given a verbal problem involving addition and subtraction of decimal numbers involving tenths and hundredths, the learner will find the answer.

26. AR-IV-B-9 Given an addition and subtraction decimal problem in horizontal or vertical form with no more than five (5) digits and no more than three (3) decimal places, the learner will find the sum or difference.

27. AR-VI-15 Given a picture of sets paired in (A) a one-to-one, (B) a many-to-one, or (C) a one-to-many ratio and part of another pair, the learner will identify the pair that keeps the ratio equivalent.

28. M-I-B-8 Given a polygon, the learner will estimate its area in square units.

29. M-I-C-7 Given a drawing of a rectangular solid divided into units (dimensions less than or equal to 5 units), the learner will name the number of units in it.

30. M-II-A-10 Given a clock face with hands on it, the learner will choose the correct time notation.

31. M-II-A-11 The learner will use A.M. and P.M. notation in writing time.

32. M-II-B-7 Given two money values, the learner will add or subtract using dollars and cents notation.

33. M-II-B-9 Given verbal problems consisting of one or two operations involving money values less than or equal to $20, the learner will solve the problems.

34. M-II-C-3 Given a Fahrenheit or Centigrade thermometer the learner will identify temperatures to the nearest degree, using the degree [°] symbol.

35. G-I-A-4 Given a set of quadrilaterals, the learner will identify and name a parallelogram, a square, and a rectangle.

36. G-I-B-5 Given the description of a plane, and a part of a plane, the learner will identify surfaces which represent a plane or part of a plane.

37. AL-2 Given a statement of equality involving addition, subtraction, or multiplication facts and containing a placeholder or letter, the learner will identify the missing number.

38. AL-4 Given a pair of whole numbers or number phrases less than 1,000, the learner will identify the appropriate symbol of equality or inequality, < or = or>.

39. AL-5 Given an equation involving one or zero, the learner will complete the sentence.

40. AL-7 Given a numerical statement involving distributive property and a placeholder, the learner will insert the missing value.

APPENDIX B

DEFINITIONS OF THE EDUCATIONAL ASSESSMENT MEASURES

DEFINITIONS OF THE EDUCATIONAL ASSESSMENT MEASURES

The twenty-two measures reported in the 1974-75 Michigan Educational Assessment Program are defined below.

Human Resources

1. **Professional instructional staff per 1,000 pupils.** The information to compute this measure was taken from the 1973 "Fourth Friday Report". The total number of professional instructional staff was obtained by adding the number of elementary and secondary staff (expressed as full-time equivalency) in the following categories: principals, assistant principals, other administrators (excluding districtwide administrative staff), consultants and supervisors, classroom teachers, librarians, audio-visual staff, guidance personnel and school counselors, psychological staff, radio and television instructional staff, teachers of the homebound, and other instructional staff. The total number of pupils was obtained by counting all pupils enrolled in grades one through twelve **except** special education pupils. Pupils who attended the school for a portion of the day and attended a non-public school for the remainder of the day were included on a full-time equivalency basis. For example, a pupil who attended the school for one-fourth of each day and attended a non-public school for the other three-fourths of each day was counted as one-fourth pupil. In order to obtain the number of professional instructional staff per 1,000 pupils, the total number of professional instructional staff was multiplied by 1,000 and divided by the total number of pupils.

2. **Teachers per 1,000 pupils.** The information to compute this measure was taken from the 1973 "Fourth Friday Report". The total number of teachers was obtained by adding the number of elementary and secondary classroom teachers. **Kindergarten teachers, special education teachers, and non-classroom teachers were not included in the total.** The total number of pupils was obtained by counting all pupils enrolled in grades one through twelve **except** special education pupils. Pupils who attended the school for a portion of the day and attended a non-public school for the remainder of the day were included on a full-time equivalency basis. In order to obtain the number of

teachers per 1,000 pupils, the total number of teachers was multiplied by 1,000 and divided by the total number of pupils.

3. Average years' teaching experience. The information to compute this measure was taken from the 1973 "Fourth Friday Report". The average was obtained by dividing the total years of teaching experience of full-time classroom teachers who work only in a school by the number of such teachers in that school. District level averages were obtained by adding the total years of experience for all schools in the district and dividing by the sum of the full-time classroom teachers in all schools in the district.

4. Percent of teachers with master's degree. The information to compute this measure was taken from the 1973 "Fourth Friday Report". It was obtained by dividing the number of full-time classroom teachers who had completed all of the requirements for a master's degree by the total number of full-time classroom teachers. The resultant value was multiplied by 100 to convert to a percent figure.

5. Average contracted salary of teachers. The information necessary to compute this measure was taken from the 1973 "Fourth Friday Report". It was obtained by dividing the total annual contractual salaries paid to full-time classroom teachers who work only in a school by the number of such teachers in that school. District level averages were obtained by adding the total annual contractual salaries for all schools in the district and dividing by the sum of full-time classroom teachers in all schools in the district.

School District Financial Resources

6. State-equalized valuation per resident member (1971-72). The information to compute this measure was taken from records filed with the Michigan Department of Education. The total state-equalized valuation (SEV) is equal to approximately 50 percent of the fair cash value of the real and personal property in the district. It is calculated as of May 22, 1972 (the fourth Monday in May) and applied to the 1972—73 academic year. In order to obtain a per-pupil value for SEV, the total SEV was divided by resident membership for the 1972—73 academic year. Resident membership, obtained from the 1972—73 "Fourth Friday Report," includes all pupils residing in the district who attended

public school in that district or in any other district; resident membership excludes pupils who attended school in the district but resided in another district, as well as excluding pupils who attended private or parochial schools.

7. Local revenue per pupil 1972—73. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1973. The total value for local revenue included revenue from sources such as the following: property tax (the major source of local revenue), local government appropriations, tuition, transportation fees, revolving funds (i.e., revenue from food services, book stores, and student body activities), rent from school facilities, etc. Tuition from community college patrons was not included in the calculation. In order to obtain local revenue per pupil, total local revenue was divided by the state aid membership (the total number of pupils enrolled in the district as of September 29, 1972, the fourth Friday after Labor Day).

8. State school aid per pupil 1972—73. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial data were taken from the Annual School District Financial Report for the fiscal year which ended June 30, 1973. The value for total state school aid represented the direct appropriations from the state, **including appropriations for state school aid, driver education, underprivileged children, and other state grants.** In order to compute the state school aid per pupil, the total state school aid was divided by 1972—73 state aid membership.

9. K-12 instructional expense per pupil 1972—73. The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School Financial Report for the fiscal year which ended June 30, 1973. The total K-12 instructional expense included expenditures for salaries and supplies connected with elementary education, secondary education, special education, summer school, and adult education. Expenditures associated with community colleges were omitted from the calculation. In order to obtain a value for **instructional expense per pupil,** total K-12 instructional expense was divided by the 1972—73 state aid membership.

10. Elementary instructional expense per pupil 1972—73. The information to compute this measure was taken from financial reports provided by the local districts and filed with the Michigan Department of Education. Financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1973. The elementary instructional expense included expenditures for salaries and supplies connected with elementary education. In order to obtain a value for elementary instructional expense per pupil for districts organized to operate a high school, total elementary instructional expense was divided by the elementary state aid membership, taken from the 1972—73 "Fourth Friday Report." For districts not organized to operate a high school (i.e., those that operate no grade above grade 8) total elementary instructional expense was divided by the K-8 state aid membership. Pre-kindergarten and special education pupils were not included.

11. Total current operating expense per pupil (1972—73). The information to compute this measure was taken from records provided by the local districts and filed with the Michigan Department of Education. The financial information was reported in the Annual School District Financial Report for the fiscal year which ended June 30, 1973. The total current operating expense included expenses connected with administration, attendance, health services, pupil transportation, plant operation, plant maintenance, and fixed charges in addition to instructional expenses (including elementary, secondary, special education, summer school, and adult education instructional expenses). Community college expenses were not included in the computation of total operating expense. The value for total current operating expense was divided by the 1972—73 state aid membership.

12. Total operating millage (1972—73). The information to compute this measure was taken from records provided by intermediate districts and filed with the Michigan Department of Education. Millage information was reported on the form "1972—73 Tax Levies of School Districts Based on 1972 State Equalized Valuation" submitted to the Department in November of 1971 for the 1972—73 school year. Total operating millage is the tax rate in mills applied to the state-equalized valuation of a district to produce revenue for the operation of its schools (not including building and site or debt retirement millage).

Percent Minority

13. Percent of racial-ethnic minority students. Percent of racial-ethnic minority students was computed for each school in the state. The information to compute this measure was taken from the 1973 "Fourth Friday Report." The total number of racial-ethnic minority students included all racial-ethnic minority students in the school. Pre-kindergarten students, kindergarten students, special education students, and part-time students were all included in the total. Since the information was expressed in terms of a head count, part-time students were not counted differently from full-time students. Students were classified as belonging to a racial-ethnic minority group if they were considered by the school to be of that group. Pre-kindergarten students, kindergarten students, special education students, and part-time students were included in the total. In order to calculate the percent of racial-ethnic minority students, the total number of racial-ethnic minority students was divided by the total number of students and the resultant figure was multiplied by 100.

Dropout Rate (1972—73)

14. School dropout rate. School dropout rate was computed from information taken from records provided by the local districts and filed with the Michigan Department of Education. The measure was based on figures from the local districts' School Dropout Report and enrollment of students in grades 9-12 during the 1972—73 academic year. Included as dropouts were students who left school for any of the following reasons: married, sent to corrective institutions, accepted employment, or dropped from attendance roll because absent 10-30 days. Not included as dropouts were students who left the district because they transferred to another district, were sent to institutions for defectives, or became sick or died. The dropout rate is calculated by dividing the number of dropouts by the sum of the number of students enrolled in grades 9-12 on the "Fourth Friday" plus new students enrolled during the year, computed from the 1972—73 School Dropout Report. The resultant figure was multiplied by 100.

Achievement

15. Word Relationships. The fourth grade Word Relationships test contained 45 verbal analogy problems which were designed to measure students' knowledge of the meaning of words and the relationships between words and concepts. Twenty minutes were allowed to work on the test. The seventh grade test contained 38 questions of the same type. The time allowed to work on this test was 15 minutes.

16. Reading. The reading tests are described in Section I of this report.

17. Mathematics. The mathematics tests are described in Section I of this report.

Size Measures

18. Grade 4 membership. Grade 4 membership was obtained by counting all full-time pupils enrolled in grade 4 except special education pupils.

19. Grade 7 membership. Grade 7 membership was obtained by counting all full-time pupils enrolled in grade 7 except special education pupils.

20. Total membership. Total membership was obtained by counting all full-time pupils in all grades operated by the district from kindergarten through the 12th grade, except special education pupils.

Attitude Measures

A pupil attitude questionnaire was offered for local district use on an optional basis. In districts that elected to use the questionnaire it was administered by reading the items aloud while pupils read them silently, recording their answers on the questionnaire itself. The results of this anonymous questionnaire were reported in the form of summaries aggregated at the classroom, school, and district level.

21. Attitude toward self was obtained by counting the favorable responses to the 15 questionnaire items toward self and subtracting the unfavorable responses. "I'm not sure" responses and omits were not counted. The resulting scores were converted to a five-point scale extending from 1 (very unfavorable) to 5 (very favorable).

22. Attitude toward school was obtained by counting the favorable responses to the 15 questionnaire items that reflect attitude toward school and subtracting the unfavorable responses. "I'm not sure" responses and omits were not counted. The resulting scores were also converted to a five-point scale extending from 1 (very unfavorable) to 5 (very favorable).

K-12 DISTRICT NORMS*

MICHIGAN

PERCENTILE DISTRIBUTION	HUMAN RESOURCES					DISTRICT FINANCIAL RESOURCES							PERCENT MINORITY	DROP-OUT RATE	SIZE MEASURE	PERCENTILE DISTRIBUTION
	(1) PROF. INSTRUCTIONAL STAFF PER 1,000 PUPILS	(2) TEACHERS PER 1,000 PUPILS	(3) AVERAGE YEARS TEACHING EXPERIENCE	(4) PERCENT TEACHERS WITH MASTERS DEGREE	(5) AVERAGE CONTRACTED SALARY OF TEACHERS	(6) SEV PER RESIDENT MEMBER (1972-73)	(7) LOCAL REVENUE PER PUPIL (1972-73)	(8) STATE SCHOOL AID PER PUPIL (1973-73)	(9) K-12 INSTRUCTIONAL EXPENSE PER PUPIL (1972-73)	(10) ELEMENTARY INSTRUCTIONAL EXPENSE PER PUPIL (1972-73)	(11) TOTAL CURRENT OPERATING EXPENSE PER PUPIL (1972-73)	(12) TOTAL OPERATING MILLAGE (1972-73)	(13) PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS	(14) SCHOOL DROPOUT RATE (1972-73)	(20) TOTAL MEMBERSHIP	
95	58.6	51.0	12.5	50.1	13952	37073	975	582	840	743	1146	31.48	23.9	10.1	10804	95
90	56.1	48.9	11.4	44.1	13434	31198	838	559	779	699	1045	29.42	11.1	8.7	7666	90
85	54.1	47.5	11.0	40.2	12883	27454	735	543	739	673	995	27.84	7.9	7.9	5760	85
80	52.9	46.2	10.4	35.7	12516	24833	651	527	705	640	955	26.60	5.1	7.2	4686	80
75	51.8	45.4	10.2	33.0	12334	22374	605	515	677	611	917	25.65	4.0	6.8	3928	75
70	51.0	44.6	9.6	30.9	11976	20766	556	500	656	588	897	24.88	3.1	6.3	3493	70
65	50.4	43.9	9.4	28.9	11838	19386	528	485	641	572	871	24.09	2.6	5.9	2900	65
60	49.6	43.5	9.1	27.2	11644	18352	490	473	619	555	855	23.49	2.1	5.5	2503	60
55	49.0	43.1	8.8	25.9	11453	17051	463	460	608	542	843	22.95	1.8	5.1	2281	55
50	48.6	42.6	8.4	24.8	11320	16060	437	442	599	529	830	22.20	1.5	4.9	2117	50
45	48.1	42.1	8.2	23.5	11156	15210	419	427	592	518	820	21.71	1.4	4.5	1938	45
40	47.7	41.6	7.9	22.0	10997	14650	397	403	583	508	810	21.31	1.2	4.2	1717	40
35	47.2	41.2	7.6	20.6	10834	14089	372	385	573	499	798	20.67	1.0	3.8	1506	35
30	46.7	40.8	7.3	19.2	10706	13246	353	362	564	488	786	20.09	.9	3.5	1311	30
25	46.1	40.3	7.0	18.0	10529	12545	335	341	557	475	774	19.50	.7	3.3	1137	25
20	45.2	39.7	6.5	16.6	10304	11752	312	302	549	463	760	18.70	.6	2.9	905	20
15	44.5	39.1	6.3	15.0	10090	11096	291	257	535	443	748	18.09	.5	2.5	781	15
10	43.6	38.4	5.9	12.4	9861	10422	268	195	523	428	734	16.90	.3	1.8	632	10
5	41.8	37.3	5.2	8.9	9401	9305	228	88	504	397	714	15.59	.0	1.1	368	5
MEAN	49.4	43.3	8.6	26.7	11479	19304	502	410	630	551	866	22.78	5.3	5.2	4136	
STANDARD DEVIATION	5.3	4.8	2.4	12.9	1403	10581	238	143	109	112	138	4.76	11.6	2.7	13073	
NUMBER OF DISTRICTS	527	527	527	527	527	528	528	528	528	528	528	528	527	526	528	

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* Because of the nature of the achievement tests and attitude questionnaires used in the 1974-75 MEAP, no percentile ranks or norm tables are available for these variables (variables 15-17, 21-22).

SCHOOL NORMS* MICHIGAN

(SCHOOLS IN K-12 DISTRICTS ONLY)

GRADE **4**

PERCENTILE DISTRIBUTION	HUMAN RESOURCES					PERCENT MINORITY	SIZE MEASURE
	(1) PROF. INSTRUC-TIONAL STAFF PER 1,000 PUPILS	(2) TEACHERS PER 1,000 PUPILS	(3) AVERAGE YEARS TEACHING EXPERI-ENCE	(4) PERCENT TEACHERS WITH MASTERS DEGREE	(5) AVERAGE CON-TRACTED SALARY OF TEACHERS	(13) PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS	(20) TOTAL MEMBER-SHIP
95	60.1	50.0	16.7	61.1	15225	97.9	793
90	56.2	47.4	15.0	52.3	14542	49.6	669
85	54.0	45.5	13.8	46.6	14110	25.4	600
80	52.3	44.1	12.9	42.8	13771	15.6	555
75	50.8	43.1	12.1	38.4	13460	8.8	523
70	49.7	42.2	11.5	35.7	13130	5.8	494
65	48.6	41.4	10.9	33.3	12882	4.2	467
60	47.7	40.8	10.3	30.4	12645	3.2	444
55	46.8	40.1	9.8	28.5	12358	2.6	419
50	46.0	39.6	9.4	25.0	12143	2.1	393
45	45.3	39.0	9.0	23.0	11909	1.8	373
40	44.4	38.4	8.5	20.6	11689	1.5	353
35	43.6	37.8	8.0	18.1	11508	1.2	335
30	42.8	37.2	7.6	16.0	11285	1.0	313
25	42.0	36.6	7.2	14.2	11043	.8	285
20	41.3	36.0	6.7	11.1	10806	.6	253
15	40.1	35.3	6.1	8.3	10489	.4	220
10	38.8	34.6	5.4	5.0	10159	.1	184
5	37.3	33.3	4.4	.0	9614	.0	143
MEAN	47.0	40.3	9.8	27.4	12260	13.6	424
STANDARD DEVIATION	7.6	5.4	3.8	18.3	1761	26.8	215
NUMBER OF SCHOOLS	2379	2379	2379	2379	2379	2379	2379

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* (See footnote on district norm tables.)

SCHOOL NORMS* MICHIGAN

(SCHOOLS IN K-12 DISTRICTS ONLY)

GRADE **7**

PERCENTILE DISTRIBUTION	HUMAN RESOURCES					PERCENT MINORITY	SIZE MEASURE
	(1) PROF. INSTRUC-TIONAL STAFF PER 1,000 PUPILS	(2) TEACHERS PER 1,000 PUPILS	(3) AVERAGE YEARS TEACHING EXPERI-ENCE	(4) PERCENT TEACHERS WITH MASTERS DEGREE	(5) AVERAGE CON-TRACTED SALARY OF TEACHERS	(13) PERCENT OF RACIAL-ETHNIC MINORITY STUDENTS	(20) TOTAL MEMBER-SHIP
95	65.7	56.3	14.9	61.2	14834	94.1	1285
90	59.7	52.0	12.9	54.1	14207	47.8	1097
85	57.7	49.5	11.8	50.0	13797	21.1	985
80	55.5	47.9	10.6	46.1	13454	15.4	910
75	53.9	46.7	10.2	42.8	13161	8.6	847
70	52.9	45.9	9.7	38.8	12895	5.6	791
65	51.8	45.1	9.3	35.8	12635	4.3	747
60	50.9	44.3	8.8	34.1	12357	3.1	696
55	50.1	43.5	8.4	32.4	12077	2.4	655
50	49.1	42.8	8.0	30.7	11843	2.0	619
45	48.4	42.1	7.5	28.5	11616	1.5	579
40	47.6	41.6	7.2	25.9	11444	1.3	544
35	46.8	41.0	6.8	23.8	11141	1.1	495
30	45.9	40.4	6.4	22.2	10922	.9	456
25	44.9	39.6	6.1	20.0	10751	.7	411
20	44.2	38.4	5.7	17.3	10497	.6	373
15	42.7	37.6	5.2	14.6	10183	.4	329
10	41.4	36.0	4.8	11.5	9879	.2	275
5	38.5	34.6	3.9	7.3	9465	.0	196
MEAN	50.5	43.8	8.4	31.8	11960	12.7	658
STANDARD DEVIATION	10.3	7.5	3.3	16.7	1723	25.2	335
NUMBER OF SCHOOLS	855	855	855	855	855	855	855

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* (See footnote on district norm tables.)